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HAND DELIVERED

Magalie R. Salas, Esquire
Secretary
Federal Communications Commission
1919 M Street, NW, Room 222
Washington, D.C. 20554

Re: 1998 Biennial Regulatory Review —
Amendment of Part 18 of the Commission's Rules to
Update Regulations for RF Lighting Devices
ET Docket No. 98-42

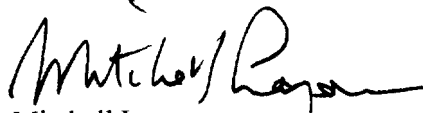
Dear Ms. Salas:

On behalf of 3Com Corporation, enclosed please find the original and nine copies of Comments of 3Com Corporation in the above-referenced proceeding.

Please date stamp and return the enclosed extra copy.

If there are questions regarding this matter, please contact the undersigned directly.

Respectfully submitted,


Mitchell Lazarus
Counsel for 3Com Corporation

ML:deb

Enclosures

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List A B C D E

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Before the
Federal Communications Commission
Washington DC 20554

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OFFICE OF THE SECRETARY

In the Matter of)

1998 Biennial Regulatory Review —)
Amendment of Part 18 of the)
Commission's Rules to Update)
Regulations for RF Lighting Devices)

ET Docket No. 98-42

**COMMENTS OF
3COM CORPORATION**

3Com Corporation (3Com) hereby submits these Comments in the above-captioned proceeding.¹

3Com's particular concern is the threat that RF lighting equipment would pose to wireless local area network (LAN) equipment operating in the 2.4 GHz band, if the Commission adopted its proposed rules without modification.

Specifically, 3Com urges the Commission to limit emissions from RF lighting equipment in the 2.4 GHz band, and to clarify the applicable measurement procedures.

**A. Part 15 Wireless LAN Equipment Is an Important Market That
Needs Reasonable Protection from RF Lighting Devices.**

The Notice proposes to allow RF lighting equipment to operate free of any radiated emissions limits in the 2.4 GHz ISM band, and at unlimited peak levels outside the band.² ISM

¹ Regulations for RF Lighting Devices, ET Docket No. 98-42, Notice of Proposed Rule Making, FCC 98-53 (released April 9, 1998) (Notice).

² Notice at ¶ 13.

shares that band with many Part 15 devices, including a large number of wireless LANs. But Part 15 was not considered in the Notice.

Part 15 devices have become a major component of the Nation's telecommunications infrastructure. Not only are Part 15 devices an important industry in their own right, but they contribute to the success and global competitiveness of many other industries, including manufacturing, retail, transportation, health care, government (including public safety and law enforcement), education, energy, communications, finance — indeed, to virtually every sector of the economy. Part 15 also helps to further the Commission's long-term goals by conserving licensed spectrum for longer-range communications.

A significant Part 15 application at 2.4 GHz is the use of low-power radio devices to interconnect components of local area networks. Linking computers among buildings, or among areas within the same building, often helps to increase efficiency and reduce costs. Of the available technologies for creating such extended LANs, Part 15 equipment is often the least expensive, and is usually the simplest to install and move. Wireline arrangements require inside wiring and outdoor trenching, or else they incur ongoing monthly charges. Licensed microwave facilities avoid the need for trenching, but may still require extensive inside wiring, and are also relatively inflexible, with delays for frequency coordination and licensing. BTA-licensed facilities may eventually ease some of the delays, but the equipment will be very expensive for the foreseeable future, and may never be cost-effective for short links.

Telecommunications users vote with their purchase orders. In this market, many have concluded that Part 15 equipment is the optimum technology for short-range LAN

interconnections. The proof lies in the striking growth curves for the market, which has ranged between 40 and 60% over each of the past five years. Industry revenues exceeded \$300 million in 1997 and, according to the market research firm InStat, will reach \$1.1 billion by 2000. Sales and penetration of Part 15 wireless LAN equipment will continue to grow dramatically beyond that date. Current and short-term market figures always underestimate the future, in part because of the long development cycles required for sophisticated Part 15 devices. 3Com, for example, first obtained an experimental license in this band in 1994, for development of products that the company is only now able to finalize for the market.

Much of the wireless LAN equipment currently available and under development operates in the 2.4 GHz band. For many applications, this band offers the best compromise between overcrowding at 902-928 MHz and the higher costs and poorer propagation at 5.8 GHz.

Adoption of the Commission's proposed RF lighting rules will not only threaten the substantial investments made in the band by existing Part 15 users, but will impair the band for the future, with resulting inefficiencies and higher costs as users are forced to turn to less suitable alternatives.

B. The Commission Can Legally Protect Part 15 from ISM.

Section 15.5(b) of the Rules on its face requires a Part 15 operator to accept interference from any other user of the band, including ISM.³ But that does not prevent the Commission from amending Part 18, as requested here.

³ The rule provides: "Operation of an intentional, unintentional, or incidental radiator is subject to the conditions that no harmful interference is caused and that interference must be accepted that may be caused by the operation of an authorized radio station, by another intentional or unintentional radiator, by industrial, scientific and medical (ISM) equipment, or by an incidental radiator." 47 C.F.R. § 15.5(b).

In any event, a 1995 precedent established that the Commission can interpret Section 15.5 to ensure that Part 15 operates successfully alongside other services. In that proceeding, the Commission allocated the 902-928 MHz ISM band for the new Location and Monitoring Service (LMS).⁴ But the band was extensively used by Part 15 devices, which were expected to interfere with some types of LMS. And a strict reading of Section 15.5 would have required a Part 15 operator to shut down if it interfered with an LMS provider.⁵

The Commission wisely avoided this result, and the great disruption it would have caused. Although it affirmed the secondary status of Part 15 relative to LMS, the Commission also established a “safe harbor”: If a Part 15 operator kept its power and antenna characteristics within certain constraints, it would be deemed not to cause harmful interference to LMS, and so could not be required to cease operations to protect LMS.⁶ This creative solution recognized the importance of Part 15 devices while still giving adequate protection to co-users of the band.

The present situation is not identical to the LMS proceeding — this proposal invokes the “interference must be accepted” clause of Section 15.5(b), rather than the “no harmful interference is caused” clause. But the balance of interests to be protected is similar. The Commission should again take appropriate steps to provide for the continued operation of Part 15 devices, while encouraging the development of other technologies in the same spectrum.

⁴ Automatic Vehicle Monitoring Systems, 10 FCC Rcd 4695 (1995).

⁵ “The operator of a radio frequency device shall be required to cease operating the device upon notification by a Commission representative that the device is causing harmful interference. Operation shall not resume until the condition causing the harmful interference has been corrected.” 47 C.F.R. § 15.5(c).

⁶ 47 C.F.R. § 90.361.

Here, the Commission need not carve out another exception to Section 15.5. Rather, it need only add a note to the table in Section 18.305(c) that sets reasonable limits on field strength limits for RF lighting devices within the band.

C. The Commission Should Impose In-Band Emissions Limits and Clarify Applicable Measurement Procedures.

1. In-band limits.

3Com supports the numerical in-band limits proposed by the Part 15 Coalition: 100 $\mu\text{V}/\text{m}$ at 30 meters for non-consumer equipment, and 50 $\mu\text{V}/\text{m}$ for consumer equipment. These values are equivalent to the out-of-band limits proposed by the Commission, and are the same limits that apply to Part 15 Class A and B digital equipment, respectively. To avoid the need for reopening these same issues if the RF lighting industry ultimately develops equipment for the 5.8 GHz band, 3Com suggests that these same limits also be made applicable at 5725-5875 MHz.

2. Measurement procedures.

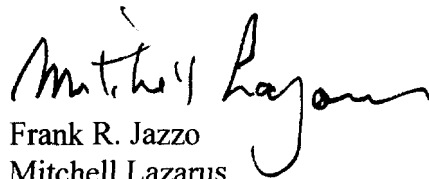
3Com supports the IEEE proposal for measurement procedures applicable to RF lighting equipment. Specifically, in addition to the maximum average emissions listed above, RF lighting equipment should be held to a peak envelope limit of 20 dB above the applicable average limit, as measured with a 1 MHz resolution bandwidth and a 1 to 2 MHz video bandwidth spectrum analyzer.

CONCLUSION

The public uses, and will increasingly depend upon, the large and growing number of wireless LAN devices operating in the 2.4 GHz band. 3Com supports the Commission's goal of facilitating the development of energy-efficient lighting technology with RF lighting products at 2.4 GHz. In setting rules for these products, however, the Commission should impose realistic field strength limits in the band, and should regulate measurement procedures both in and outside the band.

Respectfully submitted,

3COM CORPORATION

A handwritten signature in black ink, appearing to read "Mitchell Lazarus", is written over the printed names.

Frank R. Jazzo
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July 8, 1998